

Non-timber forest products in British Columbia: Policies, practices, opportunities, and recommendations

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Abstract

This article outlines British Columbia's forest resource management system and legislative framework in relation to non-timber forest product (NTFP) management. It provides an overview of what NTFPs are and discusses the history related to their use as well as associated rights and regulations. It outlines the BC context in terms of land ownership, the resource management system, management objectives, socio-economic factors, and current trends. The article also describes decision-making as well as planning processes and legal requirements for forest managers, identifies the values forest managers must manage for, and assesses the implications for NTFPs. Finally, the article provides a summary of the current status of management for NTFPs. Opportunities to improve the socio-economic benefits associated with NTFPs are identified and recommendations for future actions are provided.

KEYWORDS: Aboriginal rights; botanical forest products; British Columbia; Forest and Range Practices Act; FRPA; land-use planning; legislation; management practices; non-timber forest products; NTFPs; policy; regulation; tenure.

Introduction

The purpose of this article is to outline the current management framework—including the policies and practices—for non-timber forest products in British Columbia and to identify the challenges and opportunities to realizing more social and economic benefits from these resources.

Overview of non-timber forest products

Non-timber forest products, or NTFPs,¹ include all of the botanical (plant) and mycological (fungus) resources and associated services of the forest other than conventional timber products such as lumber, pulp, shakes, and firewood (Centre for Livelihoods and Ecology 2011a).

The NTFPs most commonly harvested in British Columbia and their uses are outlined in Table 1. These NTFPs include bioproducts used in a wide range of manufactured goods and biofuels; food and beverages; nutraceuticals and medicines; personal care products; products used to make arts and crafts and furniture; floral products and decorations; and plants used in landscaping, gardening, and restoration projects (Figure 1).

These non-timber forest products are derived from trees, shrubs, herbs, ferns and horsetails, mosses, and lichens. More than 300 products are produced by the approxi-

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Table 1: Non-timber forest products and their sources and uses

	Biofuels and bio-products for industrial uses ^a	Personal care products ^b	Floral products and greenery	Food and drinks	Medicines and nutraceuticals ^c	Landscaping, gardening, and restoration projects	Home decor, furniture, and arts and crafts
TREES							
Whole trees	Firewood, pellets, and biofuels; bio-chemicals	Essential oils (e.g., cedar oil)	Christmas trees ^d			Salvaging trees for landscaping	Specialty wood products for the home and arts and crafts ^e
Tree parts							
Branches and burls			Christmas and decorative boughs ^f				Birch and arbutus twig furniture, spalted aspen and birch burl products
Leaves and needles		Essential oils (e.g., cedar oil)			Essential oils from conifers and hardwood tree leaf medicinals ^g		Pine needle baskets
Sap				Birch and bigleaf and Douglas maple syrup, sap, and drinks			
Bark and roots			Bark for florist trade		Herbal medicines, teas, tinctures, and salves (e.g., yew)		Cedar and birchbark arts and crafts; birch root baskets
Cones, seeds, and berries				Wild berry ^h food products ⁱ		Conifer seeds for reforestation and restoration	Pine cones for crafts
SHRUBS							
Stems and leaves			Decorative branches; ^j floral greenery ^k	Shrub forage for livestock	Leaves for medicinal herbal teas ^l and salves	Salvaged and cultivated shrubs; ^m shrub cuttings for restoration projects	Willow twig furniture, canes, and baskets; black sage and juniper furniture
Berries, seeds, pollen, and flowers		Wild rose oil for soaps, lotions, and spa products		Wild berry ⁿ food, ^o bee pollen, ^p and wild rose products	Wild rosehip, elderberry, and hawthorn teas	Shrub seeds for propagating plants	
HERBS							
Stems, leaves, and/or roots		Plant extracts for personal care products	Decorative grasses and dried flower arrangements; herbs for florist trade	Native grasses forage, wild greens, ^q wild onions, culinary herbs, and herb products	Herbal medicines, teas, tinctures, and salves; ^r potted wild herbs	Salvaged native and cultivated herbaceous plants	Grass stems for decorative baskets
Flowers, berries, seeds, and/or pollen		Plant extracts for personal care products	Dried and fresh wildflowers for florists	Wild berry ^s -based food products ^t and pollen-based bee products ^u	Bee pollen for allergies	Wildflower seed for gardening and restoration projects	Dried wildflowers and seed for arts and crafts products



Table 1: Non-timber forest products and their sources and uses (continued...)

	Biofuels and bio-products for industrial uses ^a	Personal care products ^b	Floral products and greenery	Food and drinks	Medicines and nutraceuticals ^c	Landscaping, gardening, and restoration projects	Home decor, furniture, and arts and crafts
FERNS AND HORSETAILS			Fern fronds and horsetails for floral arrangements	Fern fiddleheads	Horsetail for herbal medicines	Salvaged plants for landscaping (e.g., sword and deer ferns)	
MUSH-ROOMS AND OTHER FUNGI				Wild mushrooms and mushroom products ^d and truffles	Herbal medicines, teas, tinctures, and salves		
MOSESSES AND LICHENS	Dyes for designer clothing and fabric art		Mosses for hanging baskets and for orchid growers		Herbal medicines, teas, tinctures, and salves		Mosses and lichens for arts and crafts and displays

a Bioproducts include natural compounds used for room deodorizers and home cleaning products.

b Personal care products include soaps, creams, moisturizers, shampoos, conditioners, lip balms, bath products, spa products, perfumes, and deodorants.

c Medicines and nutraceuticals include aromatherapy products, tinctures, tonics, salves, and massage oils.

d Christmas trees include Scots pine, white pine, Douglas-fir, white or concolor fir, Fraser fir, grand fir, noble fir, and alpine fir.

e Specialty wood products include woodenware (e.g., utensils, bowls), wood sculptures, home decor items, designer furniture, art, and jewellery.

f Western redcedar, white pine, true firs, Douglas-fir, mountain hemlock, and juniper are used for Christmas boughs, wreaths, and garlands.

g Essential oils are derived from redcedar and other conifers. Tree leaf medicines are derived from poplar, birch, and willow trees.

h Wild berries from trees include elderberry, chokecherry, mountain ash, and arbutus.

i Wild berries are sold fresh, dried, and/or processed into alcoholic drinks, jams and jellies, sauces, fruit leathers, vinegars, and chocolates.

j Branches of red-osier dogwood, willow (pussy willows), broom, and huckleberry (red and alpine huck) are used in the florist trade.

k Stems and leaves of salal, Oregon grape, boxwood, huckleberry, bog myrtle, juniper, holly, and Daphne are used for the florist trade.

l Leaves of blackberry and raspberry plants and other shrubs are used for herbal teas.

m Salvaged shrubs include wild rose and raspberry. Cultivated native shrubs include willows and alders used for restoration projects.

n Shrubs include raspberry, blackberry, huckleberry, blueberry, salmonberry, thimbleberry, currant, high bush cranberry, soopalalie, elderberry, chokecherry, salal, saskatoon, and Oregon grape.

o See note i.

p Products from bees include honey, honeycomb, pollen, propolis, and beeswax. Beeswax is used for candles, soaps, and lotions. Honey is made into mead.

q Wild greens include stinging nettle, asparagus, watercress, fireweed shoots, mint, Yerba Buena, and dandelion greens.

r Wild herbs used for teas and medicines include valerian, plantain, devil's club, snakeroot, wild ginger, pipsissewa, stinging nettle, and veratrum. Some other plants that are threatened or endangered are harvested; however, their wild harvesting is not encouraged (see Howe 2006).

s Wild berries from herbs include cloudberry, strawberries, trailing dewberries, cranberries, and bunchberries.

t See note i.

u See note p.

v Wild mushrooms include chanterelle, pine mushroom, morel, bolete, shaggy mane, puffball, lobster, chicken of the woods, black trumpet, porcini, hedgehog, bear's tooth, verpa false morel, and cauliflower mushrooms. Mushrooms are sold fresh and dried and also made into products including soups and sauces.

mately 200 enterprises listed in the current *Buy BCwild* Directory of NTFPs produced in British Columbia (see www.BuyBCwild.com). New businesses are emerging and new products are constantly being developed in response to new markets.

Context and history

With reference to NTFPs, two important components of the BC forest resource management system deserve mention—who has rights to access resources and what activities are deemed acceptable on different parts of the land base. This section outlines some of the history of the BC resource management system relevant to NTFP management, including history related to rights to access NTFPs, how acceptable activities have been determined,



and provides some context, including an explanation of the legal realm within which NTFP management exists.

Rights include those entrenched in the Constitution of Canada—such as Aboriginal and treaty rights²—and those granted by the provincial government through various means. The *Delgamuukw v. British Columbia* (1997) Supreme Court case established that First Nations have rights to the land itself and not only rights to hunt, fish, and gather, and that Aboriginal title has not been extinguished (Parliament of Canada 1998).

The provincial government has granted rights to entities such as individuals, municipalities, First Nations governments, and corporations to access public land and resources through various forms of tenure and harvesting agreements (Hillyer & Atkins 2004). Each agreement provides specific rights associated with resource use and management and outlines obligations associated with those rights (Hillyer & Atkins 2004).



FIGURE 1. Non-timber forest products range from bioproducts and biofuels to food and drinks, including wild berries and mushrooms.

Rights to use public land for forest and range purposes have been granted by the province under the *Forest Act* (Province of B.C. 1996c).³ The acceptable activities on a specified piece of land are identified in various legislation, including the *Forest and Range Practices Act* (FRPA) and the *Oil and Gas Activities Act*. Most of the rights to harvest timber have been granted to large forest companies in the form of area-based tree farm licences or volume-based tenures. Licences to manage small holdings (e.g., woodlots) have also been granted. These tenures do not include explicit rights to manage or harvest NTFPs.

In addition to the legal realm that specifies what can and cannot be done by statute in different areas, forest and range resource management has historically been guided by the non-legal realm of “societal expectations.” In BC a direct connection has historically existed between societal expectations and the legal realm in that professional foresters who manage forest land and who are accredited by the Association of BC Forest Profes-



sionals are expected to “serve and protect the public interests” (*Foresters Act*, see Province of B.C. 2003).⁴

Current resource management policy and regulations have been developed to serve the public interests as articulated, in part, through land-use planning and other public involvement processes.

A number of studies have analyzed the BC situation with respect to non-timber forest resources. Wills and Lipsey (1999) completed an analysis of the economic considerations and developed an economic strategy for NTFPs in the province. The Forest Practices Board made a number of recommendations regarding management of NTFPs (Forest Practices Board 2004), and a follow-up report assessed the extent to which those recommendations had been addressed, and suggested some further actions (Forest Practices Board 2011). Mitchell et al. (2010) provide an analysis of the policy environment with recommendations for addressing issues of concern. Tedder et al. (2002) review issues associated with property rights and NTFPs and Tedder (2008) discusses tenure and NTFP management. Tedder (2010) provides an analysis of the BC situation with respect to NTFPs and suggests a framework for assessing the need for regulations. Some of these studies identified the economic opportunities associated with NTFPs and several identified a need for new management models and tenure systems.

First Nations use and rights

There is a long history of First Nations management, use, and trade of the plants that are sometimes called non-timber forest products. Use of NTFPs by First Nations remains widespread (Mitchell et al. 2010).

Significant spiritual and cultural values are associated with the collecting and processing of plants, especially medicinal plants (Tedder et al. 2002). First Nations are concerned about others harvesting plants that they have Aboriginal rights to harvest and about exploitation of their traditional knowledge (Tedder et al. 2002; Forest Practices Board 2011). First Nations management of NTFPs is seen by some as a means to maintain and revitalize Aboriginal culture. Although many First Nations in BC are in the process of negotiating treaties, few have signed final agreements wherein their rights with respect to NTFPs can be clearly articulated (Tedder et al. 2002).

Rights to harvest non-timber forest products

In BC, many people have historically harvested NTFPs on public or Crown land⁵ for their personal use or for commercial purposes. Explicit rights to harvest, manage, and charge fees for NTFPs on public land have only been granted by the provincial government to those who hold a Community Forest Agreement or First Nations Woodland Licence. Private forest land owners have rights to all forest resources on their lands and some large forest companies manage access to NTFPs on these lands.

Regulation and permitting processes

The BC government has undertaken various initiatives over the past 50 years to control harvesting of single species of NTFPs. Examples of regulations, policies, and permits include the Cascara Bark Regulation, yew bark harvesting policy, and cedar bough collection authorization process⁶ (Tedder et al. 2002; Mitchell et al. 2010). These policies, regulations, and procedures were subsequently repealed (Mitchell et al. 2010).

In 1994 the provincial government’s Pine Mushroom Task Force recommended inclusion of “botanical forest products” in the Forest Practices Code (Mitchell et al. 2010).



The code, enacted in 1994, provided the authority to establish a licensing scheme for Botanical Forest Product (BFP) buyers, to establish standards for forest practices for BFPs, and to develop enforcement mechanisms (Tedder et al. 2002). However, no regulations or standards were adopted (Tedder et al. 2002). The code was replaced by the results-based *Forest and Range Practices Act* in 2002 (Mitchell et al. 2010).

Current social, economic, and legal considerations and trends

There are numerous complex issues relevant to the discussion of NTFP management (Mitchell et al. 2010; Tedder 2010). This section introduces some considerations relevant to NTFP management in BC, including the current land ownership system, the resource management system, resource management objectives, socio-economic dimensions, and current trends.

Land ownership

Approximately 94% of BC is “provincial Crown land,” 1% is “federal Crown land,” and the remaining 5% is private land, which includes forest land, agricultural land, and settlement areas (B.C. Ministry of Forests, Lands and Natural Resource Operations, Land Tenures Branch n.d.). Much of the private forest land is on the east side of Vancouver Island. In addition, a significant area of private forest land is managed by the Nishga’a First Nation who obtained clear title to this land as a result of their treaty settlement. The vast extent of public land ownership in BC means that issues relevant to NTFP management are significantly affected by provincial government decisions.

Resource management system—intensive to extensive

In BC there is a continuum of activities with respect to NTFPs from wild harvesting, which is the most common activity, to agroforestry systems, which involve the intentional growing of trees and non-tree NTFP crops, to intensive agriculture, where wild NTFP species are cultivated in a farm setting (Mitchell et al. 2010). Most NTFPs are “wild harvested” from public land for which the main resource management objectives focus on growing and harvesting timber and managing rangelands while maintaining environmental and social values. In some areas specific efforts are made to maintain the NTFP values through forest management actions, such as deferring harvesting in areas where pine mushrooms are abundant (Tedder 2008).

Resource management objectives

Management objectives related to NTFPs have been established in some parts of the province as a result of land-use plans. However, legally binding objectives related to NTFPs have only been established in a few places. Intentional management for NTFPs is fairly limited.

Socio-economic dimensions

Non-timber forest products are a growing component of the socio-economic system in BC (Mitchell et al. 2010). Harvesters include those with an interest in the products for their commercial, recreational, subsistence, and cultural values. Tens of thousands of people derive some of their income from harvesting and processing these products (Hobby et al. 2006). Harvesters include relatively unskilled or transient workers and more experienced pickers; the business owners and buyers are often well established (Mitchell et al. 2010).



The economic value of NTFPs harvested in the province is difficult to determine given the poor tracking of sales of these products (Hobby et al. 2006). In 2006, the annual contribution of all NTFPs in Canada was estimated to be between \$689 million and \$1.26 billion (Natural Resources Canada 2006). Wills and Lipsey (1999) estimated the value of the BC NTFP sector in the late 1990s to be about \$250 million per year. Annual trade value between 1996 and 2006 of the two dominant NTFP sectors—floral greenery and mushrooms—was estimated to be \$50 million to \$80 million (Hobby et al. 2006).

Many NTFP enterprises are fairly small-scale businesses that do a considerable amount of their marketing online. Harvesters often sell to regional buyers who then sell to distributors. Some businesses sell their products directly to consumers at farmers' markets or to gourmet restaurants (Davidson-Hunt et al. 2001).

Current trends

The forest resource management policies in BC are evolving to address issues associated with the management of non-timber forest products. Increasing demand for local control over forest management (Bourgeois 2011) along with the need to address Aboriginal concerns and generate new revenue streams have implications for NTFP management, as do new demands for biofuel production and carbon sequestration (Province of B.C. n.d.). Compatible management of timber and non-timber values is an option of increasing interest, particularly for managers of small areas such as woodlots and for community forest managers looking to diversify economic activities on lands (Cocksedge et al. 2010; Savage 2011). Increasing consumer demand for locally produced organic food and wild products that are harvested in a socially responsible manner is expected to fuel increasing demand for NTFPs (Wills & Lipsey 1999). In addition, for example, demand for essential oils from natural sources, such as cedar for use in a wide range of manufactured products has increased in recent years.

The resource management framework

This section provides more detail on the resource management framework in BC, including information on First Nations rights and concerns, an overview of land-use planning, and more detail on the current legal realm, including resource management acts and regulations.

First Nations rights to resources and land

Crown ownership of public lands and resources is subject to unextinguished Aboriginal rights and title (Tedder et al. 2002). Any law that “unjustifiably infringes on an aboriginal right is of no force or effect ...” (Tedder et al. 2002). However, the court in the *Delgamuukw* case reiterated that no Aboriginal rights are absolute—and they may be infringed on by the provincial or federal government if so doing furthers a substantive legislative objective and is consistent with the fiduciary relationship between the Crown and Aboriginal people (Tedder et al. 2002).

The court also reiterated the duty of the provincial government to consult and seek accommodation with First Nations with respect to decisions related to lands over which there is Aboriginal title and noted that compensation may be required when Aboriginal title is infringed (Tedder et al. 2002). Furthermore, in some cases agreement by First Nations to land-use decisions will be required. Subsequent Supreme court cases⁷ have clarified that the Crown has a duty to consult and seek an accommodation with First



Nations—whether or not the existence of Aboriginal rights or title has been proven—and that tenure holders may also have this same duty (Tedder et al. 2002; Mitchell 2011).

The extent of the rights of First Nations to public land and resources—including NTFPs—has not been fully clarified in BC (Tedder et al. 2002). Modern-day treaties and agreements-in-principle with First Nations specify that First Nations own the land in their traditional territories and the associated forest resources, which include non-timber forest resources (BC Treaty Commission 2011). However, most First Nations in BC do not have signed treaties or final agreements.

Since forest management actions sanctioned by the provincial government could infringe on First Nations’ traditional rights—including the rights to harvest NTFPs—the provincial government is engaged in extensive consultation, treaty negotiation, and capacity development with First Nations to help ensure that Aboriginal rights are not compromised. New tenure models (e.g., First Nations Woodland Licences) have been introduced to help provide opportunities for First Nations to manage forest land.

Land-use planning

The provincial government established resource management objectives for public land as an outcome of land-use planning and other activities. Over the past 20 years regional

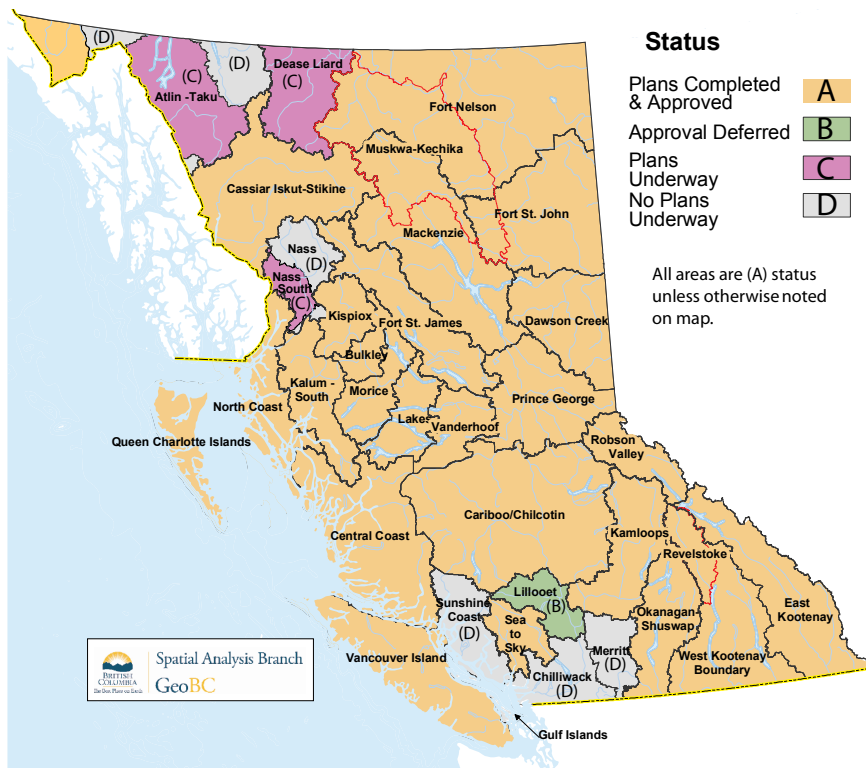


FIGURE 2. Regional and subregional resource management plans in British Columbia. Source: GeoBC: Spatial Analysis Branch, Province of B.C. (Reproduced with permission.)

and subregional resource management plans have been developed for much of the province (B.C. Integrated Land Management Bureau 2011a) (see Figure 2).

The primary focus of this planning was to establish broad management zones and define the activities that can occur within them (e.g., establish protected areas). The plans address a range of resource values, including water, wildlife and fish, visual quality, and First Nations values.



The land-use objectives provide non-binding policy direction, or in some instances have been given legal weight under the *Land Act* (Province of B.C. 1996e)⁸ and the associated *Land Use Objectives Regulation* (Province of B.C. 2005).

A number of land-use plans include objectives, strategies, or management direction related to managing NTFPs. However, only specific components of these plans have become legally binding (typically as they relate to zoning and forest harvest).

The provincial government has moved away from multi-stakeholder planning in recent years. The focus lately has been on completing ongoing plans, and finalizing and implementing associated land-use agreements with First Nations. At this time there is no initiative to systematically develop additional land-use plans or agreements (B. Sieffert, personal communication, September 2011).

The legal realm and resource management regulation

Forest resource management is regulated by provincial legislation, including the *Forest and Range Practices Act* (Province of B.C. 2002), the *Forest Act* (Province of B.C. 1996c), and the *Environment and Land Use Act* (Province of B.C. 1996b) (Reader 2006).

Forest and Range Practices Act

The *Forest and Range Practices Act* (Province of B.C. 2002), or FRPA, is a key component of the legal framework for forest resource management in British Columbia. FRPA establishes a planning process for forest and range management and governs forest practices, monitoring, and enforcement.⁹ The Act has an associated suite of FRPA regulations that govern activities of those who hold forest licences. These regulations identify legal requirements with respect to FRPA resource values, which include a number of biological and social values and a set of specific resource features.¹⁰

The FRPA regulations include the *Forest Planning and Practices Regulation* or FPPR (Province of B.C. 2004a), which applies to major licence holders, and the *Woodlot Licence Planning and Practices Regulation* or WLPPR (Province of B.C. 2004b), which applies to woodlot licence holders. The FPPR and WLPPR specify legal objectives¹¹ and practice requirements for Forest Stewardship Plans or FSPs¹² and Woodlot Licence Plans or WLPs, respectively.

Major licence holders and woodlot licence holders must draft FSPs or WLPs, as applicable, in which they propose results or strategies consistent with the objectives for FRPA values. The planning regulations (i.e., FPPR) set out practice requirements that do not form part of the plan content but must be delivered when conducting forest practices.

Under the *Forest Range and Practices Act*, government can enact Government Actions Regulation (GAR) orders to establish “objectives enabled by regulation,” which are additional to those specified in other regulations. A GAR order can identify an area with high non-timber values and protect it from forestry activities or otherwise restrict forest activities.

Using the GAR order, the government can establish objectives to protect specific resource features as well as other important areas and species (see B.C. Ministry of Forest, Lands and Natural Resource Operations [2011] for a list of existing GAR orders). Areas that can be protected by GAR orders include wildlife habitat areas (WHAs), lakeshore management zones (LMZs), and community watersheds. Special consideration can also be provided for species at risk and regionally important wildlife and ungulates (Province of B.C. 2002).



Other Acts

A number of other pieces of legislation governing actions on public forest land are relevant to NTFP management. For example, the Province can specify an area of public land as a “Designated Area”¹³ and place restrictions on forestry activities for a period of up to ten years (Province of B.C. 1996b). This has been done to defer timber harvesting in an area pending treaty settlement. The provincial government can also use the *Environment and Land Use Act* or ELUA (Province of B.C. 1996b) to make orders respecting the environment or land use that supersede other legislation. However, the use of these powers has generally been restricted to very significant actions, for example to prohibit mining in large areas where other types of protected area status cannot be used (B. Sieffert, personal communication, September 2011).

Other legislation that may apply to provincial Crown forest land includes the *Park Act* (Province of B.C. 1996f), the *Protected Areas of British Columbia Act* (Province of B.C. 2000), and the *Ecological Reserves Act* (Province of B.C. 1996a). Areas established and managed under these Acts have unique requirements and restrictions for the harvesting and management of NTFPs, which are not addressed specifically in this article.

Opportunities and challenges

This section explores the opportunities and challenges for the management of non-timber forest products in BC related to rights of access. It also discusses the laws and regulations that govern the management of forest resources, including NTFPs.

Rights to access resources on private land

As previously mentioned, about 5% of BC is private land. Private land owners may harvest NTFPs, grant rights to harvest and to control access, and also restrict people from harvesting NTFPs on their lands. Private land provides significant opportunities for those interested in managing and harvesting NTFPs insofar as one can protect investments in the resource and ensure security of product supply.

Much of the private land in BC is close to large urban populations and transportation centres and therefore offers considerable opportunities for NTFP enterprises—since the products are often sold to urban dwellers or shipped overseas (Wills & Lipsey 1999). One challenge associated with private forest land is that a considerable amount is owned by large forest companies that are not engaged in NTFP enterprises, although some companies permit harvesters to access NTFPs on their private lands for a fee (Tedder 2008).

Rights to access resources on public land

Harvesting of NTFPs on public land is not, for the most part, prohibited by any legislation. Various types of permits to occupy public land and harvest resources are issued by the provincial government, and some offer rights to harvest NTFPs (B.C. Ministry of Forests, Lands, and Natural Resource Operations, Forest Tenures Branch n.d.).

Rights to access and manage NTFPs are provided under the *Forest Act* through Community Forest Agreements (CFAs) and First Nations Woodland Licences (FNWLs). The CFA and FNWL “*may* give to its holder the right to harvest, manage and charge fees for botanical forest products and other prescribed products” (Province of B.C. 1996c) [emphasis added]. This right must be negotiated by applicants when they apply for a CFA or FNWL (L. Mannix, personal communication, April 2011). There are no requirements for these agreements or licence holders to manage for NTFPs *per se*, and they cannot restrict



others from harvesting NTFPs from their holdings—although they may be able to charge outside harvesters fees (Tedder 2008; Center for Livelihoods and Ecology 2011b).

Provincial government grazing leases issued under the *Land Act* provide *de facto* rights to NTFPs to grazing lease holders insofar as their livestock can consume vegetation growing on the lease area. Likewise hay cutting licences issued under the *Range Act* allow licence holders to harvest all native vegetation growing in hay meadows (Province of B.C. 2004d). These lease holders are subject to restrictions set out in governing regulations. Although perhaps applicable to NTFP harvesting, these legal mechanisms were not designed to manage a broad spectrum of NTFPs on rangelands.

The Province can grant a lease or licence of occupation to enable “occupancy” of an area of land for a period of time. These mechanisms could be used to provide harvesters with official access to land to gather NTFPs. However to gain such access, the harvester would have to reveal the location of the area they want to use to government. Some harvesters are reluctant to do this, since this would make the location of their key harvesting areas public knowledge. Many harvesters recognize that they would be unable to effectively exclude other harvesters—even if they had the right to do so (D. Williams, personal communication, July 2010).

Permits are issued under the *Land Act* to carry out a number of activities, including agriculture on Crown land, and “temporary occupation of Crown land”¹⁴ is permitted for specified purposes. Under the *Forest Act*, special use permits that provide non-exclusive authority to occupy public land for purposes related to forestry operations can be granted. Other forms of tenure are required to carry out specific actions—such as cutting timber (R. Greshner, personal communication, September 2011). Free use permits can be issued to harvest minor amounts of timber, including Christmas trees for personal use, but the harvested items cannot be sold. Christmas tree permits can be acquired to manage small areas of public land for Christmas tree production. Licences to cut can be issued to those harvesting trees or parts of trees, such as boughs—for a harvest of up to 50 cubic metres (Centre for Livelihoods and Ecology 2011b). Permits are also issued to salvage wood that would not otherwise be harvested (B.C. Ministry of Forests, Lands, and Natural Resource Operations, Forest Tenures Branch, n.d.). These permits and licences are generally applicable to small volume or personal use harvesting and not larger volume commercial harvesting.

Current forestry legislation—Forest and Range Practices Act

This section provides a more detailed explanation of aspects of the *Forest and Range Practices Act* (e.g. objectives, resource values) and their relationship to the management of non-timber forest products.

The *Forest and Range Practices Act* provides for the sustainable management of a set of resource values. This entails managing for timber production, soil productivity, biological values, cultural heritage resource values (CHRVs),¹⁵ and other values. Non-timber forest products are not explicitly included in this suite of values.

Although section 168 (1) of the FRPA¹⁶ allows for development of regulations (and therefore subsequent objectives and practice requirements) related to the management of NTFPs—including for harvesting, establishing licensing, and collecting fees—no regulations specifically related to NTFPs have been developed to date (B. Sieffert, personal communication, September, 2011).

To the extent that managing for specific FRPA resource values also protects NTFPs, these NTFPs will receive some consideration under the FRPA. For example, there is a re-



quirement to establish Old Forest Reserves (commonly referred to as Old Growth Management Areas or OGMAs), and these areas could provide habitat for some forest-dependent NTFP species. Areas designated as wildlife habitat areas, ungulate winter ranges, and lakeshore management zones could also provide important habitat for old and mature forest-dependent NTFPs, albeit incidentally.

Similarly, some NTFPs—such as those with medicinal values—may represent important CHRVs for First Nations, and therefore licensees will be expected to undertake activities that ensure the productivity of these species. NTFPs such as berries are both important CHRVs and important for wildlife; therefore, management actions that promote berry production will be required to provide for these resource values in some areas.

Under the FRPA, range agreement holders must ensure that native plant species are maintained and plant communities are not overgrazed by their livestock. This should provide protection for NTFPs that might otherwise be negatively impacted by heavy grazing. The abundance of some NTFPs may be enhanced by the reduction of competing vegetation by grazing animals.

Requirements to achieve FRPA objectives related to timber are specified in the provincial reforestation standards known as stocking standards, which set the minimum criteria for basic silviculture, including minimum and target stocking levels and preferred species (B.C. Ministry of Forests and Range 2008).

Although the reforestation goals governed by the stocking standards generally aim to achieve fully stocked coniferous forests, management for some NTFPs (e.g., sap from birch trees) could be done to an extent, since selected hardwood tree species are “acceptable tree species” on specific sites.¹⁷ Therefore, they could be planted or would be considered acceptable natural regeneration (B.C. Ministry of Forests and Range 2008). The abundance and vigour of shrubs and herbs that are sources of NTFPs can be significantly reduced in cutblocks if these areas are replanted with numerous closely spaced conifer seedlings (Centre for Livelihoods and Ecology 2011b). Licensees may also apply for approval to deviate from the default stocking standards to enhance shade-intolerant understorey NTFP species by replanting crop trees at a wider spacing and/or leaving open patches¹⁸ (B.C. Ministry of Forests and Range 2008). This practice has been adopted to maintain berry patches in some key coastal grizzly bear habitat (T. Hamilton, personal communication, September 2011).

The FRPA also maintains timber values by enabling regulators to control activities that might impact on timber productivity. “Botanical forest product collecting” is included in the definition of forest practices regulated under the FRPA.¹⁹ If harvesting NTFPs has a negative impact on an FRPA resource value such as timber, biodiversity, or CHRVs, NTFP harvesting could be restricted. No attempts to limit NTFP harvesting for these reasons are known to have occurred—with the exception of efforts to limit white pine bough harvesting to protect timber values. It does not seem likely that NTFP harvesting would be curtailed in most places because of potential impacts on FRPA resource values.

Current status of NTFP management

This section provides examples of ways that management for NTFPs is being addressed on private and public land in BC.

Private land

The Nisga’a First Nation established a permitting system for mushroom pickers and buyers operating on their private lands (Tedder 2008). Harvesters report overall satisfaction with



working in environments where the harvesting level is controlled and there is oversight of harvester activities (W. Cocksedge, personal communication, June 2010).

Some coastal forest companies have sold the rights to control harvesting of salal on their private lands to a separate company. Others have issued area-based permits to a group of harvesters (Tedder 2008; W. Cocksedge, personal communication, June 2011).

The Municipality of North Cowichan on Vancouver Island issues harvesting permits to NTFP harvesters on its private forest lands (Tedder 2008).

Public land

Although there are provisions in both the Forest Practices Code and the FRPA (see section 168) to manage for “botanical forest products,” no specific regulations regarding these products have been developed.

A review in 2010 found no examples of legal objectives explicitly for NTFPs (or BFPs) having been established under the *Land Act* or the FRPA (Centre for Livelihoods and Ecology 2011b). Consideration of NTFPs in forest management occurred where they were a component of cultural heritage resource values. This happened more often where the licensees were First Nations companies (Levesque 2008).²⁰

Although a number of land-use plans have goals to manage for some BFPs or NTFPs, for the most part these have not been made into legally binding objectives (B. Sieffert, personal communication, September 2010). Efforts are being made in parts of the province to ensure the production of NTFPs that have been identified as important to First Nations.

GAR orders designating areas as resource features because of their importance to First Nations—which could incidentally protect some NTFPs—exist in the Chilliwack and Okanagan Shuswap areas (B.C. Ministry of Forests, Lands and Natural Resource Operations 2011) (see Figure 2).

Prior to the enactment of the FRPA, logging was temporarily deferred to protect some NTFP values in areas where land-use plans identified high-value mushroom habitat (e.g., Nahatlach, Blackwater,²¹ Haida Gwaii–Skidegate Lake, and Kispiox) (Tedder 2008).

Rights to manage NTFPs have been granted to some Community Forest Agreement holders, such as the McBride Community Forest (CF) in the Robson Valley, the Eniyud CF (near Alexis Creek in the Caribou Chilcotin), and the Harrop Proctor CF (in the West Kootenays). For example, the McBride CF management plan includes strategies to manage for devil’s club. The Eniyud CF has done inventory and mapping of some NTFPs (S. Mulkey, personal communication, June 2010).

Woodlot licence holders do not have explicit rights with respect to NTFPs in their tenure. However, some have been involved with NTFP management and others have expressed interest in exploring this option²² (Savage 2011).

Examples of current NTFP management activities

A number of additional examples of how NTFPs are being considered in management of public land in the province are provided in the following section. Although this is not a comprehensive survey, information from locations around the province is summarized (see Figure 2).

Northwestern British Columbia

The Kispiox land and resource management plan (LRMP) has objectives to maintain and use botanical forest products (Kispiox Land and Resource Management Planning



Team 1996) (and see Figure 2). A decision to reduce the allowable annual cut of timber for this area took into consideration the potential timber supply impacts associated with achieving BFP objectives.²³ First Nations in this area expressed interest in maintaining their traditional berry patches and medicinal plant collecting area. The locations of berry patches of interest were provided to licensees and to the regional fire centre so that berry production could be enhanced by letting high-elevation wildfires burn and avoiding post-fire treatments that would reduce berry production. Site series mapping was undertaken to predict high-value mushroom sites in some areas.²⁴ Licensees have used this information in developing their FSPs (G. Buhr, personal communication, September 2011). The West Babine sustainable resource management plan (SRMP), developed for a portion of the Kispiox plan area, includes management objectives for the forest industry to identify key BFP areas, to maintain and enhance berry productivity through use of appropriate harvesting and silviculture practices, and to maintain mushroom sites by retaining 60% of stands over 80 years of age (B.C. Ministry of Sustainable Resource Management 2004).

The Morice LRMP has four specific objectives related to maintaining and enhancing NTFPs (B.C. Ministry of Agriculture and Land, Integrated Land Management Bureau 2007). The current Morice Timber Supply Area sustainable forest management plan refers to “non-timber” resources and values—acknowledging that NTFP uses occur in the area—and outlines voluntary measures to meet NTFP objectives (Tesera Systems Inc. 2010). Legal objectives are being drafted for old growth management areas (A. Bernard, personal communication, May 2011).

The Nass South SRMP has an objective to “maintain productive pine mushroom sites across the plan area” (B.C. Integrated Land Management Bureau 2009). In some areas, licensees are reducing conifer stocking levels in grizzly habitat to provide for berries. There are GAR orders establishing wildlife habitat areas and ungulate winter ranges to protect key habitat that could provide for some NTFPs. Hardwoods can be “acceptable species” in some areas.²⁵ A considerable amount of mushroom mapping has been done in this area, and a cedar management strategy is being developed to address First Nations interests (A. Benterud, personal communication, May 2011).

Northeastern British Columbia

The Prince George LRMP contains an objective related to “other potential economic activities”—which could include NTFPs—and direction to create a management plan to address issues related to potential economic activities²⁶ (B.C. Integrated Land Management Bureau 2004) (Figure 2). Some important berry patches in the Prince George area have been identified through First Nations consultation. Licensees give consideration to protecting these sites when developing their operational plans. Their Forest Stewardship Plans include general results and strategies for objectives related to the management of cultural/heritage resources (J. Burrows, personal communication, May 2011).

The 2000 Mackenzie LRMP states that First Nations in the area depend heavily on hunting, fishing, and gathering of natural foods for sustenance (B.C. Land Use Coordination Office 2000) (Figure 2). The LRMP has objectives related to a number of NTFPs, including berries, herbs, and trees, for several Resource Management Zones.²⁷ There are objectives to identify important food and medicine gathering sites and to ensure that vegetation management treatments are compatible with maintaining NTFPs. Some berry patches of concern to First Nations have been identified, and there have been requests to avoid herbicide use in these sites (S. Davis, personal communication, May 2011).



Berry picking and First Nations sustenance are identified values in some areas covered by the Vanderhoof SRMP (B.C. Integrated Land Management Bureau 2006) (Figure 2). Maps have been developed that show the predicted abundance of huckleberry after the cover of pine trees is reduced as a result of the current mountain pine beetle outbreak. A modified fire suppression plan is in place, and an ecosystem restoration strategic plan that would return fire to the landscape—and thereby likely increase berry production—is being developed (J. Degagne, personal communication, May 2011).

In the Dawson Creek and Fort St. John areas, the LRMPs do not mention NTFPs *per se* (Province of British Columbia 1997; Province of British Columbia 1999) (Figure 2). However, licensees have been asked to reduce stocking and avoid herbicides to allow for better berry production. Some berry patches have been protected through establishment of wildlife tree patches. Harvesting plans have also been altered to protect First Nations medicinal plants (E. Hunt, personal communication, May 2011).

Central British Columbia

The Caribou Chilcotin Land Use Plan makes explicit reference to maintaining access to key pine mushroom sites and maintaining the sites in a condition conducive to mushroom growth (B.C. Integrated Land Management Bureau 1994). The objectives in the 2010 Legal Orders for this area are to maintain mature birch and conduct silviculture treatments to retain berry productivity²⁸ (R. Hoffos, personal communication, August 2011).

Coastal British Columbia

The Central Coast Land Use Plan makes reference to “traditional forest resources,” which include “botanical medicines and forest resources that are utilized by a First Nation for food” and “traditional heritage features.” The latter include sites that are important to cultural practices. The plan objectives are to maintain these resources in a manner that supports First Nations uses and to protect traditional features by establishing a management zone of sufficient size to protect their integrity (B.C. Integrated Land Management Bureau 2011b).

The Sea to Sky LRMP specifies that a “Botanical Resource Strategy” is a “Required Assessment” for some areas in the traditional territory of the Lil’wat Nation. In these areas the goal is to identify important BFPs and the ecosystems and conditions that support them, identify key seral stages and “best practices,” and implement the measures that will ensure their presence and production (Province of B.C. 2008). Legally binding agreements were made between the provincial government and specific First Nations regarding some of the areas included in this LRMP (B.C. Ministry of Natural Resource Operations 2008).

The Haida Gwaii strategic land use agreement objectives have a strong First Nations focus (e.g., protecting traditional forest resources, monumental cedar, yew, and culturally modified trees) (B.C. Ministry of Agriculture and Land 2007). Managing for these resources should maintain some important NTFP values.

Discussion and conclusions

Forest and range resource management on public lands in BC is guided by policy, legislation, and outcomes of land-use plans. This system is designed to maintain resource values while minimizing impacts on ecosystem function and social values. Opportunities exist within the current framework to ensure that consideration is given to protection and enhancement of non-timber forest products, even though, for the most part, the current system was not designed to manage for NTFPs.



First Nations rights and concerns

First Nations have unique rights with respect to NTFPs. Government and industry must consult with First Nations regarding land management actions that could impact natural resources and cultural heritage values—including NTFPs. As the examples provided earlier show consultation and accommodation is occurring, and steps are being taken to ensure that those values are maintained (e.g., fire management plans and reforestation strategies that maintain berry patches). New forms of tenure (e.g., First Nations Woodland Licences) provide more opportunities for First Nations, and revenue sharing agreements and treaties are being signed in parts of the province. However, since most First Nations in British Columbia have not signed treaties, there are many unresolved issues related to First Nations rights. It is not clear whether First Nations have outstanding NTFP management concerns, and if so, if these concerns are being addressed. **An evaluation of the existing management framework to determine how well it is meeting the needs of First Nations is recommended.**

Land-use plans and objectives

Goals related to NTFPs were established in some provincial government regional land-use and resource management plans. In turn, some of these goals have been translated into legally binding objectives. The provincial government is not currently engaged in land-use planning discussions with the general public to any significant extent, so limited opportunity exists to establish new objectives related to NTFPs through processes that invite public input. Social and economic conditions have changed significantly since many of these land-use plans were drafted; changes having taken place in traditional forest industries, and an increase in NTFP enterprises in some areas has occurred. **An evaluation of the extent to which public interests related to NTFPs are being maintained would help to determine the need for public planning processes and the establishment of objectives for NTFPs.**

Legislation and regulation

Different policies, regulations, and permitting systems have been implemented in the past with respect to NTFPs and then repealed for various reasons. There are currently a number of pieces of legislation, which although not specifically designed to deal with NTFPs, are relevant to NTFP management. This includes legislation that provides for protected areas, temporarily defers timber harvesting, ensures environmental impacts of development are addressed, and regulates the actions of forest and range managers.

The main provincial forest resource regulatory system (i.e., the *Forest and Range Practices Act*) is primarily designed to regulate the harvest of trees and grazing of plants by livestock and to ensure environmental and social values—and is not designed to address management or harvesting of NTFPs. Although they may protect NTFP species adequately from the perspective of maintaining their presence on a site, existing regulations are not designed to ensure maintenance of the attributes of a non-timber forest product species that confer economic value (e.g., quality, density).

Various types of licences, permits, and leases are issued by the provincial government, and some offer rights to harvest NTFPs. For the most part, however, these legal tools were not designed to address NTFP concerns and are therefore not well suited to that end.

Some harvesters are reluctant to apply for permits, even where there is no charge for doing so, because doing so would require them to reveal the location of their harvesting areas (over which they lack ability to exclude others). Yet permit applications could help provide valuable information on the sector.



An evaluation of the extent to which the current legal framework addresses the needs associated with NTFP values is recommended. This should include an assessment of the merits of a permitting process which could help provide better information on the scope and nature of harvesting, economic contribution, and other aspects of the sector.

Forest and Range Practices Act

The FRPA has provisions that apply indirectly to non-timber forest products, although NTFPs are not explicitly identified as an FRPA value. There are FRPA requirements related to maintaining CHRVs, biodiversity, and wildlife conservation—all of which can help to maintain some NTFPs. However, there are likely cases where management for other FRPA values, such as timber, will be inconsistent with maintaining NTFP values. **An assessment of the extent to which licensees are considering NTFP values in their management activities and of the benefits of establishing an FRPA value and related objectives for NTFPs would help to ensure the sustainable management of these resources.**

Tenure models

There is currently limited security of tenure related to NTFPs. Community Forest Agreements and First Nations Woodland Licences are the two forms of public land tenure that have explicit provisions related to NTFP management. Only private land owners can restrict harvesting of these resources on their lands. Some woodlot licence holders would like to be able to manage and harvest NTFPs on their holdings. **Exploration of alternative tenure models and establishment of new tenure pilots to test assumptions in terms of maintaining or enhancing NTFPs would help inform public policy.**

Overall

The current management framework provides some opportunities for management of NTFPs. However, existing legislation, tenure systems, and strategic planning outcomes provide minimal direction regarding these resources. The framework proposed by Tedder (2010) outlines a systematic approach for an evaluation of the appropriateness of various models. **An assessment of the current situation with respect to forest management, including the regulatory framework and tenure models, would help to inform public policy in this area of growing interest and economic opportunity.**

Recommendations

1. Undertake a comprehensive assessment of the current management framework in BC with respect to NTFP management, including the vision and goals, policy and regulatory framework, and tenure models.
2. Evaluate how well First Nations interests related to NTFPs are being addressed within the current system.
3. Review land-use plans to ensure that forest management on public lands meets societal needs and evaluate the merit of developing legally binding land-use objectives for NTFPs.
4. Assess the extent to which FRPA and other elements of the current legal framework ensure NTFP values and provide necessary information on the resource and the sector.
5. Evaluate the extent to which licensees are considering NTFP values in their harvesting, reforestation, and range management practices and assess the merits of establishing an FRPA value for NTFPs.
6. Explore alternative land ownership and tenure models through the es-



establishment of new tenure pilots to test assumptions in terms of maintaining NTFPs and related socio-economic values.

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Notes

1. The terms “non-timber forest products (NTFPs)” and “botanical forest products (BFPs)” are both used in this article. “NTFP” does not have a legal definition in British Columbia, whereas “BFP” is legally defined in the *Forest Practices Code of British Columbia Act* (Province of B.C. 1996d) as “a prescribed plant or fungus that occurs naturally on Crown forest land.” Some land use plans make specific reference to BFPs. The term “non-timber forest product” or “NTFP” is generally used in this paper—except when the term botanical forest product was specifically used in a document such as when referencing a land use objective.
2. See Section 35 of the Constitution Act, 1982 (Schedule B of the *Canada Act*). Government of Canada.
3. The *Forest Act* (Province of B.C. 1996c) establishes various types of forest tenure, sets out the legal regime for forest management, and authorizes government to grant tenures or harvesting agreements (Hillyer and Atkins 2004).
4. In BC the right to practise forestry is regulated by the *Foresters Act* (Province of B.C. 2003) and restricted to members of the Association of BC Forest Professionals.
5. “Public land” and “Crown land” are terms used to refer to land vested in the Crown (i.e., provincial or federal government). In BC, First Nations have rights and title with respect to public lands. This leads to a number of issues and the need for reconciliation of Crown ownership and Aboriginal rights and title. The term “public land” is used in this article except where “Crown land” is a direct quote.
6. The Cascara Bark Regulation, introduced in 1958, was the first regulation of a non-wood forest product in the province. The regulation, which required harvesters and buyers to obtain a permit or licence, was repealed in 1981 due to a decline in demand for the bark (Mitchell et al. 2010). In 1991, high demand for western yew bark led to the development of policy regarding this product (Tedder et al. 2002). Interim procedures required harvesters to obtain free use permits or authorizations from the land tenure holder (Mitchell et al. 2010). At one time some forest districts implemented an authorization process for conifer bough harvesting; however, this procedure is no longer followed (Mitchell et al. 2010).
7. See *Taku River Tlingit First Nations v. Ringstad*, 2002 BCCA 59, and *Haida Nation v. B.C. and Weyerhaeuser*, 2002 BCCA 147—cited in Tedder et al. (2002).
8. The *Land Act* [1996], sections 93.1 to 93.3, allows government to designate areas of public land for one or more of the following purposes: (a) conserving or managing natural resources; (b) balancing multiple natural resource uses; (c) implementing a plan for a specified use of Crown Land; (d) resolving land use conflicts; (e) use for specified economic development opportunities (Province of B.C. 1996e). The *Land Amendment Act*, or Bill 46 - 2003, which includes sections 93.01 and 93.02 and 93.1 to 93.8, amends the *Land Act*. Section 93.4, which when in force, enables government to establish objectives under the *Forest and Range Practices Act*. Regulations would have to be developed to bring sections 93.1 to 93.3 into force; once in force these regulations could be used to establish legal objectives for NTFPs (B. Sieffert, pers. comm., Sept. 2011).
9. The *Forest and Range Practices Act* took effect in 2004 and largely replaced the *Forest Practices Code of British Columbia Act* or FPC (Province of B.C. 1996d) (B.C. Ministry of Sustainable Resource Management et al. 2005).
10. Resource values include biodiversity, cultural heritage, fish/riparian, forage and associated plant communities, recreation, resource features, soil, timber, visual quality, water, and wildlife (British Columbia Forest and Range Evaluation Program 2011). Resource features include karst, cultural heritage resources such as culturally modified trees and recreation sites, and other features (Government Action Regulation, see Province of B.C. 2004c).
11. Four types of objectives are set by government regarding forest and range values: 1) Land use objectives—established under the *Land Act* and *Forest Practices Code Act*; 2) Objectives in regulation (see FRPA); 3) Objectives enabled by regulation (see *Government Action Regulation* or GAR); and 4) Grandparented objectives—carrying forward objectives established under the FPC (see sec. 181 of FRPA) (B.C. Ministry of Sustainable Resource Management et al. 2005).



12. FSPs are plans major licensees must have approved that describe the results and strategies proposed to meet the required objectives (Province of B.C. 2002).
13. An ABCFP guidebook provides a list of places for which Designated Area Regulations had been developed by 2009 (Association of BC Forest Professionals 2009). A separate regulation is required to establish each area. Some areas that were once considered Designated Areas no longer have that status (see Designated Areas in the *Forest Act* [Province of B.C. 1996c]).
14. According to the *Land Act*, permission can be granted to occupy Crown land “(a) for a period not longer than 2 years to conduct appraisals, inspections, analyses, inventories, surveys or other investigations of the land or of its natural resources; (b) for a period not longer than 2 years for any purpose authorized under this Act” (Province of B.C. 1996e).
15. According to the *Forest Act*, a cultural heritage resource or CHR is defined as “An object, a site or the location of a traditional societal practice that is of historical, cultural or archaeological significance to British Columbia, a community or an aboriginal people” (Province of B.C. 1996c). The FRPA objective for CHR is “to conserve, or, if necessary, protect CHRs that are, 1. the focus of a traditional use, by an aboriginal people, and that are of continuing importance to that people and 2. not regulated under the Heritage Conservation Act” (Province of B.C. 2002). Some NTFPs, such as medicinal herbs, berries, and cedar bark, may be considered a CHR as they were traditionally used by First Nations.
16. FRPA section 168 states, in reference to botanical forest products, that “(1) The Lieutenant Governor in Council may make regulations respecting botanical forest products—i.e. (a) obtaining botanical forest products from Crown Land; (b) establishing a licensing scheme for the purposes of regulating botanical forest products; (c) issuing, amending, renewing, suspending or cancelling licences; (d) applications for licences; (e) fees for licences and applications; (f) inspectors and inspections for the purposes of enforcing licensing; (g) appeals” (Province of B.C. 2002).
17. Hardwoods are acceptable if the licensee has included them in a proposed stocking standard to the district and they have been approved. The default stocking standards generally do not include hardwoods.(A. Benterud, personal communication, August 2011).
18. Under FPPR Section 26 (5), a set of standards may be approved even though they do not conform to Section 26 (3) or (4) of the FPPR. The approval is subject to the Delegated Decision Maker being satisfied that the stocking standards are reasonable, having regard for the future timber supply for the area. However, a clear, credible rationale is required, linked to management objectives or strategies (B.C. Ministry of Forests and Range 2008).
19. The following activities are prescribed for the purposes of the definition of “forest practice” in Section 1 (1) of the Act: timber harvesting, road construction, road maintenance, road use, road deactivation, silviculture treatments, botanical forest product collecting, and fire use, control, and suppression (Province of B.C. 2004a).
20. Results or strategies for specific cultural heritage resources were included in 34% of the 110 Forest Stewardship Plans reviewed in 2008. These values included cedar (22% of all FSPs), culturally modified trees (10%), birch ecosystems (3%), and cultural plants (4%). The 110 FSPs reviewed represented approximately 58% of those approved by 2008 and included FSPs from 27 of 29 B.C. Ministry of Forests and Range districts. All First Nations companies addressed cedar management in their FSPs, compared to 59% in non-affiliated companies (Levesque 2008).
21. The current Blackwater sustainable forest management (SFM) plan makes no reference to avoiding logging in prime NTFP (i.e., mushroom) areas (Forest Practices Board 2008).
22. Over half of the approximately 200 BC Woodlot License holders who responded to a recent survey said that exploring alternatives to conventional timber harvesting (e.g., NTFPs, carbon, tourism) to generate revenue was a high priority (Federation of British Columbia Woodlot Associations 2010).
23. The “botanical forest products” section of the Kispiox AAC Rationale (2008:29) describes the modelling approach taken and the Chief Forester’s decision-making process (G. Buhr, personal communication, September 2011).
24. Photo-interpreted, field-verified site series mapping of high-value pine mushroom habitat has been conducted in small areas of known high habitat concentration in the Kispiox/Cranberry Timber Supply Area (G. Buhr, personal communication, September 2011).
25. The default stocking standards for this area generally do not include hardwoods. However, black cottonwood and red alder are considered the preferred species on a number of sites (A. Benterud, personal communication, August 2011).
26. The objective in the LRMP reads as follows: “Recognize other potential economic activities (e.g., botanical products, potable water, medicinal plants, eco-tourism).” The strategy reads, “When a new economic activity is identified, the responsible agency or proponent will identify: the area of interest; the scope of the project; the impact to other resource values; and create a management plan to address issues” (B.C. Integrated Land Management Bureau 2004).



27. Regarding forest resources in several Resource Management Zones, the objective is to “[m]aintain the opportunity for the sustainable use of botanical forest products such as wild berries, mushrooms and medicinal plants.” The strategy is to “[i]dentify important food and medicine gathering sites and where appropriate, consider vegetation management practices related to reforestation that are compatible with maintaining berry picking and other botanical forest products” (B.C. Land Use Coordination Office 2000).
28. Objective 24 is to “[m]aintain at least 40 percent of existing mature birch to allow for First Nations cultural use within cutblocks” in specified areas. Objective 34 reads, “[i]n specified Grizzly bear units ... conduct silviculture treatments on cutblocks to retain as much existing berry productivity as is practicable” (B.C. Integrated Land Management Bureau 1994).

References

- Association of BC Forest Professionals. 2009. Overview of current enactments and policies. *In*: Forest legislation and policy reference guide 2009. Association of BC Forest Professionals, Vancouver, B.C. http://www.abcfp.ca/practice_development/continuing_education/Documents/RefGuide09_Ch_02.pdf (Accessed September 2011).
- B.C. Forest and Range Evaluation Program (FREP). 2011. About the FRPA resource values. <http://www.for.gov.bc.ca/hfp/frep/values/index.htm> (Accessed September 2011).
- B.C. Integrated Land Management Bureau. 1994. Caribou-Chilcotin land use plan. http://archive.ilmb.gov.bc.ca/slrp/lrmp/williamslake/cariboo_chilcotin/index.htm (Accessed September 2011).
- _____. 2004. Prince George land and resource management plan. <http://archive.ilmb.gov.bc.ca/slrp/lrmp/princegeorge/pgeorge/plan/toc.htm> (Accessed September 2011).
- _____. 2006. Vanderhoof SRMP. <http://archive.ilmb.gov.bc.ca/slrp/srmp/north/vanderhoof/index.html> (Accessed September 2011).
- _____. 2009. Nass South sustainable resource management plan. http://archive.ilmb.gov.bc.ca/slrp/srmp/south/nass/docs/nass_south_SRMP_public_review_changes_draft_20090917.pdf (Accessed September 2011).
- _____. 2011a. Land use planning. <http://archive.ilmb.gov.bc.ca/slrp/index.html> (Accessed September 2011).
- _____. 2011b. Central and North Coast EBM implementation. http://archive.ilmb.gov.bc.ca/slrp/lrmp/nanaimo/central_north_coast/index.html (Accessed September 2011).
- B.C. Land Use Coordination Office. 2000. Mackenzie land and resource management plan. <http://archive.ilmb.gov.bc.ca/slrp/lrmp/princegeorge/mackenzie/index.html> (Accessed September 2011).
- B.C. Ministry of Agriculture and Land. 2007. Haida Gwaii strategic land use agreement. http://archive.ilmb.gov.bc.ca/slrp/docs/Haida_SLUPA_Dec_07.pdf (Accessed September 2011).
- _____, Integrated Land Management Bureau. 2007. Morice land and resource management plan. http://archive.ilmb.gov.bc.ca/slrp/lrmp/smithers/morice/plan/files/morice_lrmp_july2007.pdf (Accessed September 2011).
- B.C. Ministry of Forests and Range. 2008. Stocking standards. http://www.for.gov.bc.ca/hfp/silviculture/stocking_stds.htm (Accessed September 2011).
- B.C. Ministry of Forests, Lands and Natural Resource Operations. 2011. Government action regulation ministerial orders. <http://www.for.gov.bc.ca/tasb/legsregs/frpa/frparegs/govact/orders/> (Accessed September 2011).
- _____. Forest Tenures Branch. n.d. Timber tenures. <http://www.for.gov.bc.ca/hth/timber-tenures/index.htm> (Accessed December 2011).
- _____. Land Tenures Branch. n.d. Crown land uses (program areas). http://www.for.gov.bc.ca/Land_Tenures/crown_land_application_information/program_areas.html# (Accessed December 2011).
- B.C. Ministry of Natural Resource Operations. 2008. Sea to Sky LRMP government-to-government agreements. <http://www.ilmb.gov.bc.ca/slrp/lrmp/surrey/s2s/plan/g2gagreements.html> (Accessed September 2011).
- B.C. Ministry of Sustainable Resource Management. 2004. Xsu gwin lik'l'inswx: West Babine sustainable resource management plan. http://archive.ilmb.gov.bc.ca/slrp/srmp/north/west_babine/docs/west_babine_SRMP.pdf (Accessed September 2011).



- B.C. Ministry of Sustainable Resource Management, Ministry of Forests, and Ministry of Water Land and Air Protection. 2005. What's new in FRPA (2005). FRPA Training Companion Guide. http://www.for.gov.bc.ca/code/training/frpa/pdf/FRPA_Forestry_Companion_Guide_ver-2-3.pdf (Accessed September 2011).
- BC Treaty Commission. 2011. Aboriginal rights. <http://www.bctreaty.net/> (Accessed September 2011).
- Bourgeois, B. 2011. Healthy forests—healthy communities: A conversation on BC forests. Interim report. <http://bcforestconversation.com> (Accessed November 2011).
- Centre for Livelihoods and Ecology, Royal Roads University. 2011a. Definition / overview, Non-timber forest products (NTFPs). http://cle.royalroads.ca/about_ntfp_sector/definition_overview (Accessed September 2011).
- _____. 2011b. Integrating non-timber forest products into forest planning and practices in British Columbia: An update. Draft report to BC Forest Practices Board. Centre for Livelihoods and Ecology, Royal Roads University, Victoria, B.C.
- Cocksedge, W., B. Titus, & D. Mitchell. 2010. Benefits of and barriers to compatible management for timber and non-timber values in BC: Results of a survey. *BC Journal of Ecosystems and Management* 11(1&2):9–26. <http://jem.forrex.org/index.php/jem/article/view/59> (Accessed January 2012).
- Davidson-Hunt, I., L. Duchesne, & J. Zasada. 2001. Non-timber forest products: Local livelihoods and integrated forest management 2001. *In: Forest communities in the third millennium: Linking research, business, and policy toward a sustainable non-timber forest product sector*. U.S. Department of Agriculture, Forest Service, North Central Research Station, St. Paul, Minn. USFS General Technical Report NC-217. <http://nrs.fs.fed.us/pubs/828> (Accessed December 2011).
- Delgamuukw v. British Columbia. 1997. 3 S.C.R. 1010. <http://scc.lexum.org/en/1997/1997scr3-1010/1997scr3-1010.html> (Accessed September 2011).
- Federation of British Columbia Woodlot Associations. 2010. What you told us: Report on this year's woodlot questionnaire. *Woodland Almanac* (Spring 2010):20–21. <http://www.woodlot.bc.ca/PDF/AlmanacNewsletter/FBCWA-Woodland-Almanac-Spring-2010.pdf> (Accessed September 2011).
- Forest Practices Board. 2004. Integrating NTFPs into forest planning and practices in British Columbia. Forest Practices Board Special Report 19. http://www.fpb.gov.bc.ca/SR19_Integrating_Non-Timber_forest_products_into_forest_planning_and_practices_in_BC.htm (Accessed September 2011).
- _____. 2008. Logging in the Blackwater Pine Mushroom Management Area. Complaint Investigation 070773. Forest Practices Board FPB/IRC 134. http://www.fpb.gov.bc.ca/IRC134_Logging_in_the_Blackwater_Pine_Mushroom_Management_Area.pdf (Accessed September 2011).
- _____. 2011. Follow up: Integrating NTFPs into forest planning and practices in British Columbia. Forest Practices Board Special Report 21. http://www.fpb.gov.bc.ca/SR41_Follow_Up_Integrating_NTFP_into_Forest_Planning_and_Practices_in_BC.htm (Accessed September 2011).
- Government of Canada. 1983. Constitution Act. Laws-lois <http://laws.justice.gc.ca/eng/Const> (Accessed September 2011).
- Hillyer, A. & J. Atkins. 2004. Non-timber forest products law and policy in British Columbia—Craft products. *In: Law and policy compendium*. Centre for Livelihoods and Ecology, Royal Roads University, Victoria, B.C. <http://cle.royalroads.ca/law-policy-compendium> (Accessed September 2011).
- Hobby, T., D. Mitchell, Tedder, S., McBeath, A., & Wang, S. 2006. Economic subcomponent. *In: Critical information for policy development and management for non-timber forest products in British Columbia: Baseline studies on economic value and compatible management*. FIA-FSC Project Y061065. Centre for Non-timber Resources, Royal Roads University, Victoria, B.C.
- Kispiox Land and Resource Management Planning Team. 1996. Kispiox land and resource management plan. http://archive.ilmb.gov.bc.ca/slrp/lrmp/smithers/kispiox/plan/files/kilrmp_amendment_march_2001.pdf (Accessed September 2011).
- Levesque, L. 2008. A review of Forest Stewardship Plan results and strategies for the cultural heritage resource value. B.C. Ministry of Forests and Range, Forest Practices Branch, Victoria, B.C. Forest and Range Evaluation Program. http://www.for.gov.bc.ca/ftp/hfp/external!/publish/frep/reports/FREP_Report_18.pdf (Accessed September 2011).
- Mitchell, B. 2011. BC 140 today. Living with Crown and aboriginal title. BC Treaty Commission. http://www.bctreaty.net/files/pdf_documents/One-Territory-Two-Titles.pdf (Accessed September 2011).



- Mitchell, D., S. Tedder, T. Brigham, W. Cocksedge, & T. Hobby. 2010. Policy gaps and invisible elbows: NTFPs in British Columbia. *In: Wild products governance: Finding policies that work for non-timber forest products*. S.A. Laird, R. McLain, & R.P. Wynberg (editors). Earthscan, Washington, D.C.
- Natural Resources Canada. 2006. The state of Canada's forests 2005–2006. Government of Canada, Ottawa, ON. <http://cfs.nrcan.gc.ca/pubwarehouse/pdfs/26336.pdf> (Accessed September 2011).
- Parliament of Canada. 1998. Aboriginal title: The Supreme Court of Canada decision in *Delgamuukw v. British Columbia*. <http://www.parl.gc.ca/Content/LOP/researchpublications/bp459-e.htm> (Accessed September 2011).
- Province of B.C. (n.d.). BC bioenergy strategy: Growing our natural energy advantage. http://www.energyplan.gov.bc.ca/bioenergy/PDF/BioEnergy_Plan_005_0130_web0000.pdf (Accessed November 2011).
- _____. 1996a. Ecological Reserves Act 1996. [RSBC 1996] c. 103. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96103_01 (Accessed September 2011).
- _____. 1996b. Environment and Land Use Act. 1996. [RSBC 1996] c. 117. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96117_01 (Accessed September 2011).
- _____. 1996c. Forest Act. [RSBC 1996] c. 157. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/96157_00 (Accessed September 2011).
- _____. 1996d. Forest Practices Code of British Columbia Act. [RSBC 1996] c.159. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96159_01 (Accessed September 2011).
- _____. 1996e. Land Act. [RSBC 1996] c. 245. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96245_01 (Accessed September 2011).
- _____. 1996f. Park Act [1996] c. 344. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_96344_01 (Accessed September 2011).
- _____. 1997. Fort St. John Land and Resource Management Plan. http://archive.ilmb.gov.bc.ca/slrp/lrmp/fortstjohn/fort_stjohn/index.html Accessed September 2011).
- _____. 1999. Dawson Creek Land and Resource Management Plan. http://archive.ilmb.gov.bc.ca/slrp/lrmp/fortstjohn/dawson_creek/index.html Accessed September 2011).
- _____. 2000. Protected Areas of British Columbia Act [2000] c. 17. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00017_00 (Accessed September 2011).
- _____. 2002. Forest and Range Practices Act (FRPA). [RSBC 2002] c. 69. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_02069_01 (Accessed September 2011).
- _____. 2003. Foresters Act. [SBC 2003] chap. 19. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_03019_01 (Accessed September 2011).
- _____. 2004a. Forest and Range Practices Act. Forest Planning and Practices Regulation. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/12_14_2004 (Accessed January 2012).
- _____. 2004b. Forest and Range Practices Act. Woodlot Licence Planning and Practices Regulation. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/23_21_2004 (Accessed September 2011).
- _____. 2004c. Government Action Regulation. B.C. Reg. 582/2004. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/17_582_2004 (Accessed September 2011).
- _____. 2004d. Range Act [SBC 2004] c.71. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/00_04071_01 (Accessed September 2011).
- _____. 2005. Land Use Objectives Regulation. B.C. Reg. 357/2005. http://www.bclaws.ca/EPLibraries/bclaws_new/document/ID/freeside/17_357_2005 (Accessed September 2011).
- _____. 2008. Sea-to-Sky LRMP: Land and resource management plan. April 2008. http://archive.ilmb.gov.bc.ca/slrp/lrmp/surrey/s2s/docs/S2S_LRMP_Final/S2SLRMP_Final_April2008.pdf (Accessed September 2011).
- Reader, R. 2006. The expectations that affect the management of public forest and range lands in British Columbia: Looking outside the legislation. Prepared for B.C. Ministry of Forests and Range and Ministry of Environment. <http://www.for.gov.bc.ca/hfp/legislation/Looking%2520Outside%2520the%2520Legislation%2520FINAL%2520External.pdf> (Accessed September 2011).
- Savage, J. 2011. Proposed approach to the development of a plan that will assist BC woodlots to diversify and enhance revenues. Draft report. Prepared for the Woodlot Product Development Council.
- Tedder, S. 2008. Tenure and the management of non-timber forest products in British Columbia. Sustainable Forest Management Network, Edmonton, AB. Synthesis Report. <http://www.sfmn.ales.ualberta.ca/en/Publications/SynthesisReports.aspx> (Accessed September 2011).



- _____. 2010. Common pool resources and state intervention: Why, when and how. PhD thesis. University of British Columbia, Vancouver, B.C. https://circle.ubc.ca/bitstream/handle/2429/23333/ubc_2010_spring_tedder_sinclair.pdf?sequence=1 (Accessed December 2010).
- Tedder, S., D. Mitchell, & A. Hillyer. 2002. Property rights in the sustainable management of non-timber forest products. B.C. Ministry of Forests, Forest Renewal BC, Victoria, B.C. <http://cle.royalroads.ca/files-cntr/Property%20Rights.pdf> (Accessed December 2011).
- Tesera Systems Inc. 2010. Morice Timber Supply Area sustainable forest management Plan. Prepared for Morice and Lakes Timber Supply Areas Innovative Forests Practices Agreement. [http://www.moricelakes-ifpa.com/publications/documents/MoriceSFMPlan_V3.4%20\(031010\).pdf](http://www.moricelakes-ifpa.com/publications/documents/MoriceSFMPlan_V3.4%20(031010).pdf) (Accessed September 2011).
- Wills, R.W. & R.G. Lipsey. 1999. An economic strategy to develop non-timber forest products and services in British Columbia. Final report to Forest Renewal British Columbia, Victoria, B.C. http://www.sfp.forprod.vt.edu/pubs/ntfp_bc.pdf (Accessed September 2011).

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Test Your Knowledge

How well can you recall the main messages in the preceding article?
Test your knowledge by answering the following questions.

Non-timber forest products in British Columbia: Policies, practices, opportunities, and recommendations

1. Name the seven broad categories of non-timber forest products.
2. Are non-timber forest products included in the list of FRPA resource values?
3. Which government-granted tenures may offer their holders explicit rights to harvest, manage, and charge fees for harvesting NTFPs?
4. Have regional or subregional resource management plans (e.g., Caribou Chilcotin Land Use Plan) been developed for most of British Columbia?
5. Name two permits applicable to the harvesting of Christmas trees.

1. Bioproducts and biofuels; personal care products; floral products and greenery; food and drinks; medicines and nutraceuticals; plants for landscaping, gardening, and restoration projects; products for home decor, furniture, and arts and crafts.
2. No, they are not included as one of the FRPA resource values per se, although some of the existing FRPA values address some aspects of NTFP values (e.g., cultural heritage resource value).
3. Community Forest Agreements and First Nations Woodland Licenses.
4. Yes.
5. Free use permits and Christmas tree permits.

